

REMARKS

Claims 1-11 have been examined. New claims 12-14 have been added to further describe patentable aspects of the invention.

I. Objections to the Specification

Claims 1 and 5 are objected to because the Examiner is confused as to what is “scanning.” Claims 1 and 5 have been amended to more clearly recite the features of the present invention. The substance of the claims have not been changed since the prior pending claim also referred to scanning by readout light.

For example, claim 1, as amended, recites “scanning a solid state detector with readout light,...which records image data as an electrostatic latent image when irradiated with recording light bearing the image data, and generates electric current corresponding to the electrostatic latent image when scanned with the readout light.” The prior pending claim described scanning with readout light in the concluding clause of the claim. The present amendment merely clarifies that recitation. Therefore, the objection should be withdrawn.

II. Rejection of claims 1, 3, 6 and 8 under 35 U.S.C. § 103

Claims 1, 3, 6 and 8 stand rejected under 35 U.S.C. § 103(a) as being Imai, US Patent No.: 6,376,857 (hereinafter Imai '857) in view of Agano, US Pub. No.: US 2003/0015664 (hereinafter Agano). Applicants traverse the rejection based on the following comments.

Claim 6 recites, *inter alia*, “a pixel density changing means for changing a pixel density of an image formed by the image signal, in the longitudinal direction of the linear electrodes, by changing the scanning speed of the readout light and/or the sampling rate.” The Examiner acknowledges that Imai '857 fails to teach or suggest the above features and, therefore, relies on Agano. Agano teaches that a read-out image signal *S_a* representing the image is fed out from the

solid-state detector, the read-out image signal Sa is digitized, the digital read-out image signal Sd is stored, and then the digital read-out image signal Sd is fed into the pixel density transforming means 13 (paragraph 71). Once the digital read-out image signal Sd is fed into the pixel density transforming means 13, the signal Sd is processed to lower or raise the pixel density (paragraphs 72-77). For example, processing is performed on the image signal Sd itself by utilizing a magnification ratio or by averaging adjacent pixel together to create a new signal value corresponding to one pixel. Therefore, the processing taught in Agano occurs post-readout and does not relate to the scanning. Agano does not teach or suggest changing a pixel density of an image formed by the image signal by changing the speed of the readout light and/or the sampling rate.

Furthermore, Agano teaches that the pixel density of an image is altered after the radiation image is recorded (i.e., after the read-out image signal is obtained). Thus, the solid-state radiation detector has already been scanned and the image sampled. Agano does not teach changing the pixel density by means of the scanning/sampling process. That is, Agano does not teach changing the scanning speed of the readout light and/or the sampling rate, processes involved in generating the image signal. Thus, Agano does not disclose changing a pixel density of an image formed by the image signal by changing the speed of the readout light and/or the sampling rate.

The Examiner also asserts that paragraphs 77 and 97 of Agano teaches changing a pixel density of an image formed by the image signal, in the longitudinal direction of the linear electrodes, by changing the scanning speed of the readout light and/or sampling rate. However, according to Agano, pixel density conversion is possible only in the direction that the stripe

electrodes are arranged (the main scanning direction) and not in the longitudinal direction of the linear electrodes (the sub-scanning direction).

Agano only discloses a detector that employs the thin-film transistors (TFT) method (paragraphs 65, 67 and 68). As noted above, in a TFT type detector, pixel density conversion can only be performed by signal processing after signals are read out from each pixel of the TFT's in both the main and sub-scanning directions. Scanning by readout light is not performed with respect to TFT type detectors. Therefore, the concept of changing the scanning speed or sampling rate does not apply to TFT type detectors, and this is a feature unique to the present invention. For example, in the present invention, signals are detected from the same linear electrode in the sub-scanning direction, and therefore, pixel density conversion in the sub-scanning direction can be performed during the signal detection step, by changing the scanning speed or the sampling rate. Agano fails to teach this feature.

In view of the above, Imai '857, alone or in combination with Agano, fails to teach or suggest the features of claim 6. Claim 6 should be patentable for at least this reason. Claim 1 includes analogous, though not necessarily coextensive features recited in claim 1, and therefore, claim 1 is patentable for the reasons discussed for claim 6.

Claims 3 and 8 should be patentable at least by virtue of their respective dependencies.

III. Rejection of claim 10 under 35 U.S.C. § 103

Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Imai, US Patent No.: 6,376,857 (hereinafter Imai '857) and Agano, US Pub. No.: US 2003/0015664 A1 (hereinafter Agano) as applied to claim 6 above, further in view of Imai, US Patent No.: US 6,268,614 (hereinafter Imai '614). We propose traversing the rejection as based on the following comments.

Claim 10 recites, *inter alia*, “a readout speed changing means for changing the readout speed of the electrostatic latent image by changing the scanning speed of the readout light scanning means and the sampling rate in proportion with each other.” The Examiner acknowledges that Imai ‘857 and Agano fail to teach or suggest the above features and, therefore, relies on Imai ‘614. In particular, the Examiner notes that Imai ‘614 teaches an electrostatic recording member which allows a read-out apparatus to read out a latent image in a shorter time (increase in the read-out speed). Thus, the Examiner asserts that this inherently implies the change of the scanning speed and adjustment of a sampling rate. We disagree.

Imai ‘614 at best teaches that the read-out speed of the read-out apparatus is increased relative to other conventional systems recited in the disclosure. That is, due to structural features and improvements in an electrostatic recording member 10, such as a charge transport layer and a thin read-out photoconductive layer side, an electrostatic latent image can be read out at a higher speed under a strong electric field without applying a high electric voltage (col. 8, lines 39-60 and col. 10, lines 25-33). Thus, by using materials of higher sensitivities and thicknesses, Imai ‘614 appears to teach that a read-out speed can be increased as compared to conventional systems. A readout speed changing means, according to claim 10, is not necessarily inherent. That is, it appears the although the read-out speed is increased compared to conventional systems, Imai ‘614 does not necessarily teach or suggest a readout speed changing mead. Thus, Imai ‘614 does not teach or suggest a readout speed changing means for changing the readout speed of the electrostatic latent image by changing the scanning speed of the readout light scanning means and the sampling rate in proportion with each other. Moreover, there is no teaching in Imai ‘614 of changing the scanning speed of the readout light scanning means and the sampling rate in proportion with each other, as recited in claim 10. The Examiner appears to

be making his own conclusions based on the disclosure of the present Application instead of relying on what is taught or suggested in the cited art. That is, we note that impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art. Therefore, Imai '614 fails to correct the deficiencies of Imai '857 and Agano.

IV. Rejection of claims 2, 4, 5, 7, 9 and 11 under 35 U.S.C. § 103

Claims 2, 4, 5, 7, 9 and 11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Imai, US Patent No.: 6,376,857 (hereinafter Imai '857) and Agano, US Pub. No.: US 2003/0015664 A1 (hereinafter Agano) as applied to claim 6 above, in view of Agano, US Patent No.: 4,661,708 (hereinafter Agano '708). We propose traversing the rejection as based on the following comments.

Claim 5 recites, *inter alia*, “a frequency band of the current detecting means is changed according to a readout speed of the electrostatic latent image, in the case that the readout speed is changed by changing a scanning speed of the readout light and the sampling rate in proportion with each other.” The Examiner acknowledges that Imai '857 and Agano fail to teach or suggest the above features and, therefore, relies on Agano '708. The Examiner relies on Agano '708, column 2, lines 16-21, for teaching this feature. However, the passage cited by the Examiner merely teaches that a scanning speed of the laser beam 3 is selected so that the stimulation energy of the laser beam 3 for the preliminary read-out is smaller than the stimulation energy of the laser beam for the final read-out. Thus, Agano '708 does not appear to teach or suggest that a frequency band of the current detecting means is changed according to a readout speed of the electrostatic image, in the case that the readout speed is changed by changing a scanning speed of the readout light and the sampling rate in proportion with each other.

Claim 2 recites “a beam width of the readout light, in the longitudinal direction of the linear electrodes, is changed according to the pixel density in the longitudinal direction of the linear electrodes.” The Examiner relies on Agano ‘708, column 2, lines 16-21, and column 4, lines 12-13, for teaching this feature. However, there is no teaching in Agano ‘708 that a beam width of the readout light, in the longitudinal direction of the linear electrodes, is changed according to the pixel density in the longitudinal direction of the linear electrodes. In fact, Agano ‘708 fails to mention a pixel density in a longitudinal direction. Thus, if the Examiner disagrees, we would request that the Examiner specifically point out where exactly he believes Agano ‘708 teaches the features of claim 2.

Claims 4 and 7 should be patentable for reasons similar to those presented above in conjunction with claim 2.

Agano ‘708 fails to correct the deficiencies of Imai ‘857 and Agano in conjunction with claim 6. Therefore, claim 9 should be patentable at least by virtue of its dependency.

Claim 11 should be patentable for reasons similar to those presented above in conjunction with claim 5.

V. New claims

By this Amendment, Applicants have added new claims 12-14 to further define the claimed invention. Applicants respectfully submit claims 12-14 recite additional features which are not taught or suggested by the prior art of record.

VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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